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In the Claims

1-4. (cancelled)

5. (currently amended) A method of curing a composition comprising applying the composition to a three-dimensional substrate and curing by plasma in a plasma discharge chamber wherein the composition comprises (d) and either

- (a) at least one free-radical-polymerisable compound or
 - (b) at least one compound that, under the action of an acid, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or
 - (c) at least one compound that, under the action of a base, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or
- a mixture of components (a) and (b), or
a mixture of components (a) and (c);

and wherein

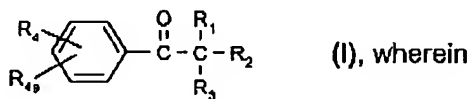
(d) is at least one photolabile compound that is activatable by plasma discharge;

~~wherein-~~

~~the composition is applied to a three-dimensional substrate and~~

~~the curing is carried out in a plasma discharge chamber~~

wherein component (d) in the composition is at least one compound selected from the group consisting of formula I, II and IV



R_1 is C_1 - C_{12} alkyl or C_1 - C_{12} alkoxy;

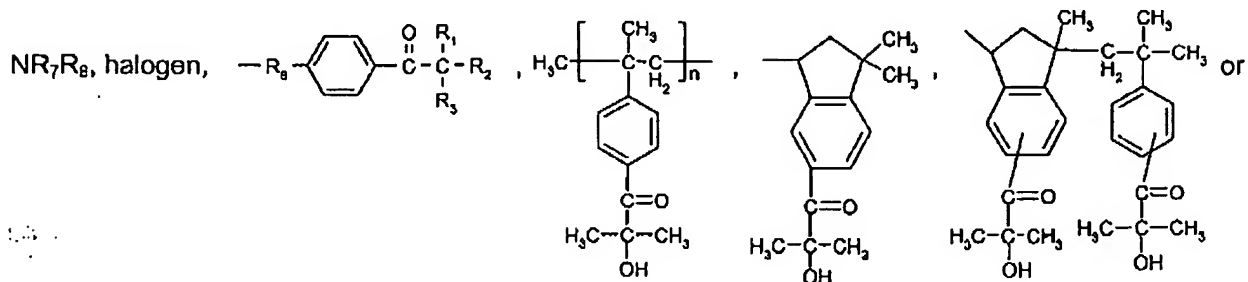
R_2 is phenyl, OR_5 or NR_7R_8 ;

R_3 has one of the definitions given for R_1 or is C_3 - C_{12} alkenyl, phenyl- C_1 - C_6 alkyl or C_1 - C_6 alkyl-phenyl- C_1 - C_6 alkyl;

or R_1 and R_3 , together with the carbon atom to which they are bonded, form a cyclohexyl ring;

R_2 being phenyl when R_1 and R_3 are both alkoxy;

R_4 and R_{4a} are each independently of the other hydrogen, C_1 - C_{12} alkyl, C_1 - C_{12} hydroxyalkyl, OR_6 , SR_6 ,

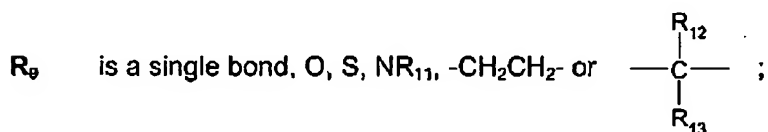


a monovalent linear or branched siloxane radical;

n is a number from 1 to 10;

R_5 and R_6 are each independently of the other hydrogen, C_1 - C_{12} alkyl, C_1 - C_{12} alkenyl, phenyl, benzyl, $\text{Si}(\text{CH}_3)_3$ or $-\text{[C}_6\text{H}_4\text{X]}_b-\text{R}_{10}$;

R_7 and R_8 are each independently of the other hydrogen, C_1 - C_{12} alkyl or C_2 - C_5 hydroxyalkyl, or R_7 and R_8 , together with the N atom to which they are bonded, form a 5- or 6-membered ring, which ~~may also~~ contain a ring is either not further interrupted or is interrupted by one or more O atoms or a NR_{11} group;



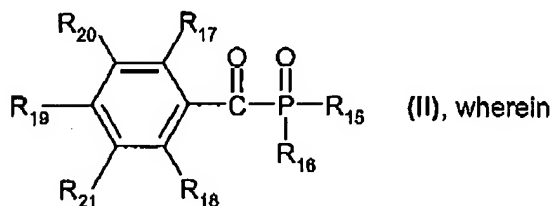
a and b are each independently of the other a number from 1 to 12;

X is S, O or NR_{11} ;



R_{11} is hydrogen, phenyl, phenyl- C_1 - C_4 alkyl, C_1 - C_{12} alkyl or C_2 - C_5 hydroxyalkyl; and

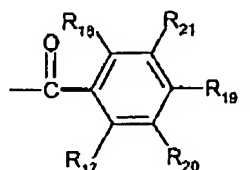
R_{12} , R_{13} and R_{14} are each independently of the others hydrogen or methyl;



and
by etc.

R_{15} and R_{16} are each independently of the other C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy; phenyl which is unsubstituted or substituted by one or more OR_{22} , SR_{23} , $NR_{24}R_{25}$, C_1 - C_{12} alkyl or halogen substituents;

or R_{15} and R_{16} are biphenyl, naphthyl, phenyl- C_1 - C_4 alkyl or

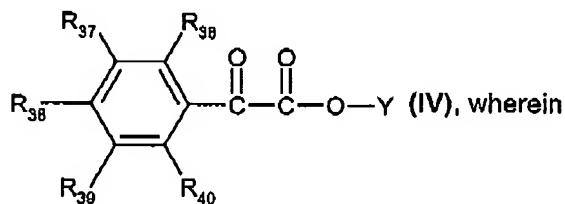


R_{17} and R_{18} are each independently of the other C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy, CF_3 or halogen;

R_{19} , R_{20} and R_{21} are each independently of the others hydrogen, C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy, CF_3 or halogen;

R_{22} , R_{23} , R_{24} and R_{25} are each independently of the others hydrogen, C_1 - C_{12} alkyl, C_2 - C_{12} alkenyl, C_3 - C_8 cycloalkyl, phenyl, benzyl, or C_2 - C_{20} alkyl which is interrupted by O atoms and is unsubstituted or substituted by OH or/and SH; or R_{24} and R_{25} , together with the N atom to which they are bonded, form a 5- or 6-membered ring, which may also contain O or S atoms or an NR_{26} group; and

R_{26} is hydrogen, phenyl, phenyl- C_1 - C_4 alkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} alkyl or C_1 - C_{12} hydroxyalkyl;



R_{36} , R_{37} , R_{38} , R_{39} and R_{40} are each independently of the others hydrogen, C_1 - C_{12} alkyl unsubstituted or substituted by OH, C_1 - C_4 alkoxy, phenyl, naphthyl, halogen, CN and/or by $-OCOR_{41}$, or C_2 - C_{12} alkyl which is interrupted by one or more O atoms, or R_{36} , R_{37} , R_{38} , R_{39} and R_{40} are OR_{42} , SR_{43} , $NR_{44}R_{45}$, halogen, a monovalent linear or branched siloxane radical, or phenyl unsubstituted or substituted by one or two C_1 - C_4 alkyl or/and one or two C_1 - C_4 alkoxy substituents, it being possible for the substituents OR_{42} , SR_{43} , $NR_{44}R_{45}$ to form 5- or 6-membered rings by way of the radicals R_{42} , R_{43} , R_{44} and/or R_{45} with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

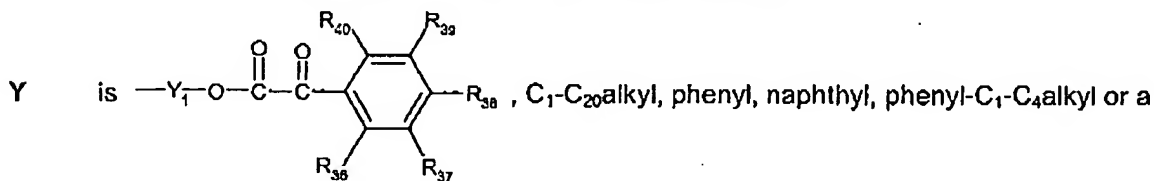
R_{41} is C_1 - C_8 alkyl, or phenyl unsubstituted or substituted by from one to three C_1 - C_4 alkyl and/or one to three C_1 - C_4 alkoxy substituents;

R_{42} and R_{43} are each independently of the other hydrogen, C_1 - C_{12} alkyl unsubstituted or substituted by OH, C_1 - C_4 alkoxy, phenyl, phenoxy or/and by $-OCOR_{41}$, or C_2 - C_{12} alkyl which is interrupted by one or more O atoms, or R_{42} and R_{43} are phenyl unsubstituted or substituted by C_1 - C_4 alkoxy, phenyl or/and by C_1 - C_4 alkyl, or R_{42} and R_{43} are C_3 - C_8 alkenyl, cyclopentyl, cyclohexyl or naphthyl;

R_{44} and R_{45} are each independently of the other hydrogen, C_1 - C_{12} alkyl unsubstituted or substituted by OH, C_1 - C_4 alkoxy or/and by phenyl, or C_2 - C_{12} alkyl which is interrupted by one or more O atoms, or R_{44} and R_{45} are phenyl, $-\text{COR}_{41}$ or SO_2R_{46} , or R_{44} and R_{45} , together with the nitrogen atom to which they are bonded, form a 5-, 6- or 7-membered ring, which may also be interrupted by $-\text{O}-$ or $-\text{NR}_{47}-$;

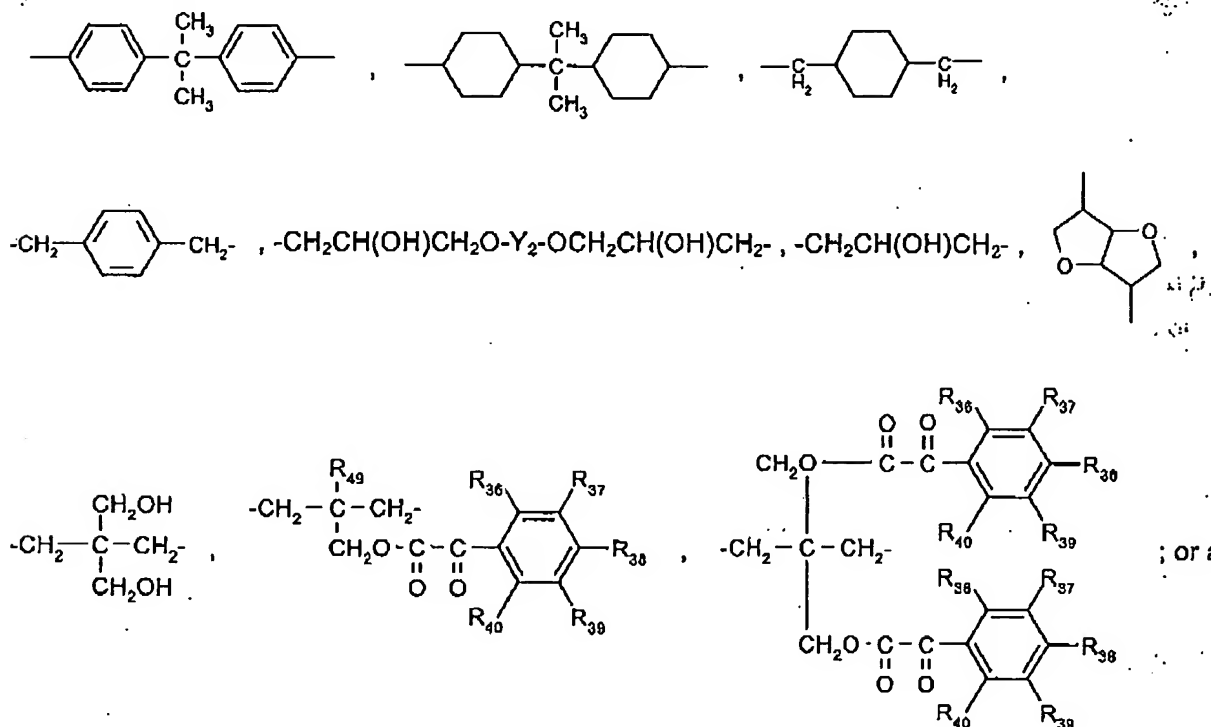
R_{46} is C_1 - C_{12} alkyl, phenyl or 4-methylphenyl;

R_{47} is hydrogen, C_1 - C_8 alkyl unsubstituted or substituted by OH or by C_1 - C_4 alkoxy, or is phenyl unsubstituted or substituted by OH, C_1 - C_4 alkyl or by C_1 - C_4 alkoxy;



monovalent linear or branched siloxane radical;

Y_1 is C_1 - C_{12} alkylene, C_4 - C_8 alkenylene, C_4 - C_8 alkynylene, cyclohexylene, C_4 - C_{40} alkylene interrupted by one or more $-\text{O}-$, $-\text{S}-$ or $-\text{NR}_{48}-$, or is phenylene or Y_1 is a group



divalent linear or branched siloxane radical;

Y_2 has the same definitions as Y_1 with the exception of the formula

$-\text{CH}_2\text{CH}(\text{OH})\text{CH}_2\text{O}-\text{Y}_2-\text{OCH}_2\text{CH}(\text{OH})\text{CH}_2-$;

R_{48} is hydrogen, C_1 - C_{12} alkyl or phenyl; and

R_{49} is hydrogen, CH_2OH or C_1 - C_4 alkyl.

6. (previously presented) A method according to claim 5, wherein component (d) in the composition is at least one compound selected from the group consisting of formula I and II.

7. (currently amended) A method of curing a composition comprising applying the composition to a three-dimensional substrate and curing by plasma in a plasma discharge chamber wherein the composition comprises (d) and either

(a) at least one free-radical-polymerisable compound or

(b) at least one compound that, under the action of an acid, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or

(c) at least one compound that, under the action of a base, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or

a mixture of components (a) and (b), or

a mixture of components (a) and (c); and

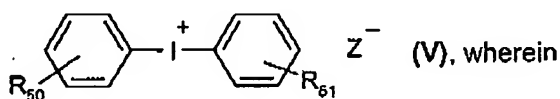
wherein

(d) is at least one photolabile compound that is activatable by plasma discharge;

wherein

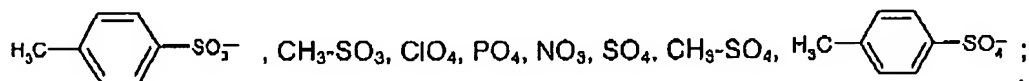
the composition is applied to a three-dimensional substrate and

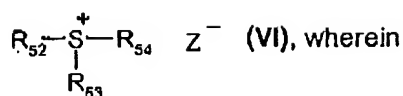
the curing is carried out by plasma discharge in a plasma discharge chamber wherein component (d) in the composition is at least one compound selected from the group consisting of formula V, VI, VII and VIIa



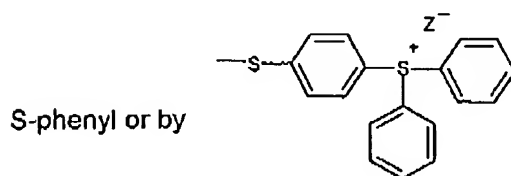
R_{50} and R_{61} are each independently of the other hydrogen, C_1 - C_{20} alkyl, C_1 - C_{20} alkoxy, OH-substituted C_1 - C_{20} alkoxy, halogen, C_2 - C_{12} alkenyl, cycloalkyl, especially methyl, isopropyl or isobutyl; and

Z^- is an anion, especially PF_6^- , SbF_6^- , AsF_6^- , BF_4^- , $(C_6F_5)_4B^-$, Cl^- , Br^- , HSO_4^- , $CF_3SO_3^-$, $F-SO_3^-$,

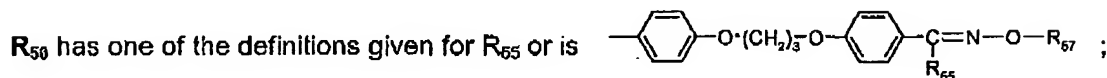
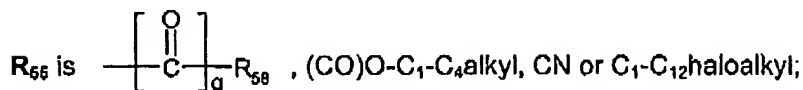
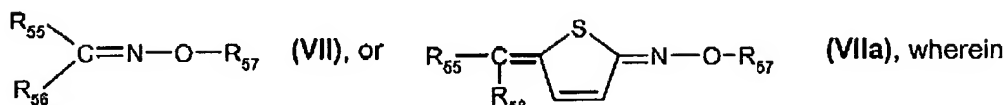




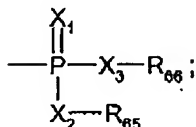
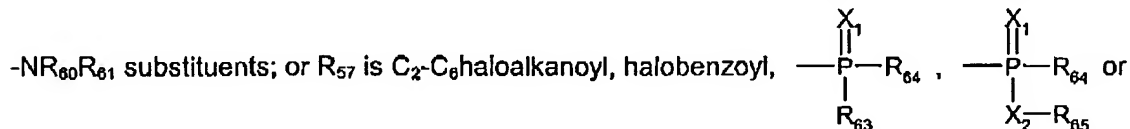
R_{52} , R_{53} and R_{54} are each independently of the others unsubstituted phenyl, or phenyl substituted by –



Z^- is as defined above;



R_{57} is C₁-C₁₈alkylsulfonyl, C₁-C₁₀haloalkylsulfonyl, camphorylsulfonyl, phenyl-C₁-C₃alkylsulfonyl, C₃-C₃₀cycloalkylsulfonyl, phenylsulfonyl, naphthylsulfonyl, anthracylsulfonyl or phenanthrylsulfonyl, unsubstituted or substituted by one or more halogen, C₁-C₄haloalkyl, CN, NO₂, C₁-C₁₆alkyl, phenyl, C₁-C₄alkylthio, C₁-C₄alkoxy, phenoxy, C₁-C₄alkyl-O(CO)-, C₁-C₄alkyl-(CO)O-, $\text{R}_{67}\text{OSO}_2$ - and/or



X_1 , X_2 and X_3 are each independently of the others O or S;

q is 0 or 2; and

R₅₈ is C₁-C₁₂alkyl, cyclohexyl, camphoryl, unsubstituted phenyl, or phenyl substituted by one or more halogen, C₁-C₁₂alkyl, OR₅₉, SR₅₉ or NR₆₀R₆₁ substituents;

R₅₉ is C₁-C₁₂alkyl, phenyl, phenyl-C₁-C₄alkyl or C₁-C₁₂hydroxyalkyl;

R₆₀ and **R₆₁** are each independently of the other hydrogen, C₁-C₄alkyl, C₂-C₆hydroxyalkyl, or **R₆₀** and **R₆₁**, together with the N atom to which they are bonded, form a 5- or 6-membered ring, which may also contain O atoms or an NR₆₂ group;

R₆₂ is hydrogen, phenyl, phenyl-C₁-C₄alkyl, C₁-C₁₂alkyl or C₂-C₆hydroxyalkyl;

R₆₃, **R₆₄**, **R₆₅** and **R₆₆** are each independently of the others C₁-C₈alkyl, C₁-C₈haloalkyl, or phenyl unsubstituted or substituted by C₁-C₄alkyl or by halogen; and

R₆₇ is hydrogen, C₁-C₄alkyl, phenyl or tolyl.

8. (cancelled)

9. (previously presented) The method according to claim 5, wherein the composition comprises, in addition to the photolent component (d), other additives (h), sensitizer compounds (f) or/and dyes or pigments (g).

10. (previously presented) The method according to claim 9, wherein the composition comprises at least one light stabilizer or/and at least one UV absorber compound.

11. (previously presented) The method according to claim 5, wherein the composition is a surface coating.

12. (previously presented) The method according to claim 5, wherein the composition is a printing ink.

13. (previously presented) The method according to claim 5, wherein the composition comprises as polymerizable component solely free-radical-polymerizable compounds (a).

14. (previously presented) The method according to claim 13, wherein the free-radical-polymerizable compound comprises at least one compound selected from the group consisting of

mono-, di-, tri- or tetra-functional acrylate monomers and mono-, di-, tri- or tetra-functional acrylate-functional oligomers.

15. (previously presented) The method according to claim 5, wherein the composition comprises as polymerisable component solely cationically polymerisable or crosslinkable compounds (b).

16. (previously presented) The method according to claim 5, wherein the composition comprises as polymerisable component a mixture of at least one free-radical-polymerisable compound (a) and at least one cationically polymerisable compound (b).

17. (previously presented) The coated substrate which is coated on at least one surface by means of the method according to claim 5.

18. (previously presented) A coating obtained by a method according to claim 5.

19. (previously presented) A method of curing a composition comprising

(1) a combination of at least one electron acceptor maleimide compound and at least one electron donor vinyl ether compound; and

(2) optionally at least one free-radical-polymerisable compound (a),
wherein the curing is carried out in a plasma discharge chamber.

20. (previously presented) The method according to claim 5 of curing a composition comprising

(a) at least one free-radical-polymerisable component having at least one ethylenically unsaturated double bond, the free-radical-polymerisable component optionally additionally being functionalised with OH, NH₂, COOH, epoxy or NCO groups; and

(a1) a mixture of at least one compound selected from the group consisting of polyacrylates and polyester polyols,

and at least one compound selected from the group consisting of melamine, melamine derivatives and blocked or non-blocked polyisocyanates;

or

(a2) a mixture of at least one compound selected from the group consisting of carboxyl-, anhydride- or amino-functional polyesters and carboxyl-, anhydride- or amino-functional polyacrylates,

and at least one compound selected from the group consisting of epoxy-functional polyesters and polyacrylates;

or

(a3) a mixture of (a1) and (a2); and

(d) at least one photolabile compound of that is activatable by plasma discharge selected from the group consisting of formula I, II, and IV;

wherein

the curing of the composition is carried out in a plasma discharge chamber and, optionally, thermal pre- or after-treatment is carried out.

21. (previously presented) The method according to claim 5 of producing mouldings from composite materials, wherein a support is impregnated with the composition comprising

(a) at least one free-radical-polymerisable compound or

(b) at least one compound that, under the action of an acid, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or

(c) at least one compound that, under the action of a base, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or

a mixture of components (a) and (b), or

a mixture of components (a) and (c); and

(d) at least one photolabile compound that is activatable by plasma discharge selected from the group consisting of formula I, II, and IV;

and is introduced into a mould;

wherein the curing is carried out in a plasma discharge chamber and, optionally, thermal aftertreatment is carried out.

22-27. (cancelled)

28. (previously presented) The method according to claim 7, wherein the composition comprises, in addition at least one light stabiliser or/and at least one UV absorber compound and optionally other additives (h), sensitizer compounds (f) or dyes or pigments (g).

29-37. (cancelled)

38. (previously presented) The method according to claim 7, wherein the composition is a surface coating.

39. (cancelled)

40. (previously presented) The method according to claim 7, wherein the composition comprises as polymerisable component solely cationically polymerisable or crosslinkable compounds (b).

41. (previously presented) The method according to claim 7, wherein the composition comprises as polymerisable component a mixture of at least one free-radical-polymerisable compound (a) and at least one cationically polymerisable compound (b).

42. (previously presented) The method according to claim 7 of curing a composition comprising (a) at least one free-radical-polymerisable component having at least one ethylenically unsaturated double bond, the free-radical-polymerisable component optionally additionally being functionalised with OH, NH₂, COOH, epoxy or NCO groups; and

(a1) a mixture of at least one compound selected from the group consisting of polyacrylates and polyester polyols, and at least one compound selected from the group consisting of melamine, melamine derivatives and blocked or non-blocked polyisocyanates;

or

(a2) a mixture of at least one compound selected from the group consisting of carboxyl-, anhydride- or amino-functional polyesters and carboxyl-, anhydride- or amino-functional polyacrylates, and at least one compound selected from the group consisting of epoxy-functional polyesters and polyacrylates;

or

(a3) a mixture of (a1) and (a2); and

(d) at least one photolabile compound of that is activatable by plasma discharge selected from the group consisting of formula V, VI, VII and VIIa;

wherein

the curing of the composition is carried out in a plasma discharge chamber and, optionally, thermal pre- or after-treatment is carried out.

43. (previously presented) The method according to claim 7 of producing mouldings from composite materials, wherein a support is impregnated with the composition comprising

- (a) at least one free-radical-polymerisable compound or
- (b) at least one compound that, under the action of an acid, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or
- (c) at least one compound that, under the action of a base, is able to enter into a polymerisation, polycondensation or polyaddition reaction, or
- a mixture of components (a) and (b), or
- a mixture of components (a) and (c); and
- (d) at least one photolabile compound that is activatable by plasma discharge selected from the group consisting of formula V, VI, VII and VIIa;
and is introduced into a mould;
wherein the curing is carried out in a plasma discharge chamber and, optionally, thermal aftertreatment is carried out.

44. (previously presented) A method of curing a composition according to claim 5 wherein (d) comprises at least one compound of formula I and one compound of formula II.